155-6 THE PLAN

Make no small plans; they have no magic to stir men's blood, and probably themselves will not be realized. Make big plans: aim high in hope and work, remembering that a noble, logical diagram, once recorded, will never die.

Daniel Burnham

Greenspaces and Greenways can and should be the path to Rhode Island's future landscape. Both components--the multi-functional greenspace resource areas identified in the valuation analysis and the linear corridors connecting greenspaces, existing public open space, and populated areas--are needed. Neither element alone can adequately stem the erosion of critical resources, repair the disintergration of natural systems, or guarantee access to the outdoors; but together they offer the promise of a future landscape in which critical resources and Rhode Islanders' links to their land are secure.

Presented graphically and described in this part is a plan for Rhode Island's future greenspace and greenway network.

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6-1 Building Blocks

The proposed greenspace and greenway system is composed of three elemental building blocks:

❖ *Currently Protected Open Space*

The 87,000 acres of public and securely-protected private open space constitute the starting point, or backdrop, for the future system.

❖ *Greenspace Resource Areas*

Greenspaces, the multi-functional resource areas identified through the Greenspace Valuation Analysis (described in Part Five) constitute the plan's second element. These areas, large and small, are scattered across the state but are not entirely random in distribution. Not surprisingly, many coincide with linear geographic features such as riverine wetland systems, coastal beach and pond systems, and island cores. Multi-functional greenspace resource areas total approximately 93,000 acres.

❖ *Greenways*

Greenways are the third, but in many ways most significant, element of the plan (see box). They are crucial because they offer connection. Greenways are proposed to unify the entire greenspace system and offer a means for structuring Rhode Island's future landscape. By uniting otherwise disconnected open space areas, multi-functional greenspaces, and populated areas into linear systems, greenways offer the promise of reconnecting Rhode Island's fragmented landscape and reconnecting Rhode Islanders with their land.

With greenways connecting them, open spaces, rather than existing as islands increasingly surrounded and cut off by development, are linked together forming a network or matrix. This connectivity facilitates movement, a fundamental requirement of both ecological and human systems. It allows water to flow, unimpeded, at its own pace through wetland systems; it allows wildlife populations to move for foraging and breeding, or to escape predators and habitat disruptions; and it allows people new options (or, more correctly, old options rediscovered) for movement as well--places to walk and bicycle safely, opportunities for long-distance hiking.

Three major types of greenways are proposed by the plan: natural corridors, bikeway corridors, and trail corridors. The public interest in each type differs, as do the protection objectives, access, and management regimes for each.

The Big Picture

A Nationwide Living Network of Greenways

"Imagine walking out your front door, getting on a bicycle, a horse, or a trail bike, or simply donning a backpack, and within minutes of your home, setting off on a continuous network of recreation corridors which could lead across the country.

Greenways are your vehicle for this imaginary trip of the future, reaching out from communities all across America to link cities, towns, farms, ranches, parks, refuges, deserts, alpine areas, wetlands, and forests into a vast and varied network of open spaces.

Greenways are a way to provide open recreation spaces for every American, close to home. Greenways are our vision for the future"*.

As It Did With *Highways* A Generation Ago, Rhode Island Can Lead The Way Nationally With *Greenways*

Nearly half a century ago, similar plans for a nationwide network--the National System of Interstate and Defense Highways--were being devised. Rhode Island chose to be a pioneer in that movement. It leaders, and its people saw great potential for social and economic progress in the concept. Rather than proceeding at the slow pace of other states, Rhode Island expedited completion of its portion of the Interstate System using (borrowed) State funds in advance of federal reimbursement. It became one of the first states to complete all its parts of the Interstate System.

Today, Rhode Island could again lead the nation. As the smallest state, it could become the first state to complete its portion of the national greenway network envisioned by the President's Commission on Americans Outdoors. Other states--Maryland, Florida--have laid out plans for extensive state greenway systems. Armed now with its own plan, and small size, Rhode Island could, with spirited implementation, outpace other states in getting its system 'on the ground'.

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* Report of the President's Commission on Americans Outdoors, 1987. p. 142

Natural Corridors

Natural corridor greenways are proposed, linking existing protected open space and greenspace areas, and extending into developed (populated) areas. Natural corridors reflect the inherent linearity found in the distribution of multifunctional greenspace areas; their courses follow the state's major river systems, coastal barriers, major islands, and agricultural belts.

The principal purpose of natural corridor greenways is to preserve the greenspace resource values inherent in them. Reservation of broad bands of natural vegetation and wetlands along rivers and coastlines will protect water quality and help preserve and restore many wildlife species. While secondary to preservation objectives, fostering public access to and usage of the resources of natural corridors is also a goal of the greenspace system. With appropriate limitations, natural greenways designated in the plan can and should provide opportunities for hiking and other trail use, or accommodate canoeing and other water-based recreation on the rivers and coastal waters they embody, without endangering resources they contain. This does not mean that all natural corridors, by definition, will accept or encourage public access or use.

Major and minor natural greenways are included in the plan. Major natural corridors are, by definition, routes of high significance to the overall state plan. Major natural corridors in the plan include a mid-state greenbelt, primary, and secondary greenways.

The *mid-state greenbelt*, proposed to traverse the state on a generally north-south axis, would link the Black Hut Management Area, Scituate Reservoir watershed, Big River Management Area, and major greenspace areas via a broad intervening band of open space. It would constitute a distinct break in Rhode Island's future landscape, separating areas which would be primarily urban in scale and intensity from areas which would remain generally more rural in character. Protection of greenspace tracts which add to, consolidate (by eliminating in-holdings), or link together the (existing) extensive public land holdings along and to the west of the mid-state greenbelt would be encouraged.

Aligned with the state's principal rivers, coastline features, and island spines, *primary natural corridors* comprise the fundamental linkages of the unified natural system. While less crucial to the unity of the overall plan, *secondary corridors*--following small streams and brooks--are proposed as significant opportunities for greenspace resource linkages complementing the primary connections. Minor, or local, natural corridors are shorter routes proposed by local governments affecting only one or two communities.

The creation of natural corridor greenways, while an important component of the overall plan, must not be seen as a panacea for conservation. Narrow linear corridors cannot substitute for the large tracts of uninterrupted habitat needed by many wildlife species for foraging and breeding; and efforts to protect large contiguous tracts of greenspace must accompany greenway creation. Care must also be taken to insure that the connections created by greenway corridors do not detrimentally impact the management of rare or endangered species by providing pathways for competitors, predators, or diseases to reach presently isolated populations.

Bikeway Corridors

Greenways can also become the backbone of a future alternative transportation network. Bikeway corridors--separate from roadways wherever possible--will offer not only safe, but aesthetic opportunities for Rhode Islanders to leave their cars at home. That lifestyle choice already exists for Rhode Islanders who live or work in the East Bay communities--a statewide network of bikeways would properly extend it to all of the state's citizens in the future. Adoption of alternative ways to travel by increasing numbers of Rhode Islanders will also have a positive effect for the state's imperiled greenspace: each avoided auto trip reduces air and water pollution. Over time, as the alternative transportation momentum grows, some of the bikeway corridors--especially those proposed along abandoned rail lines--might eventually accommodate public transit, and obviate the need for new or expanded highways.

Like natural corridors, two scales of bikeways are contemplated:

Major bikeway corridors are proposed to constitute a unified bikeway system spanning the state. These proposals are largely based upon the state bikeway system planning underway at RIDOT, but they differ in several respects from the draft State Bikeway Plan circulated by RIDOT in 1992. In distinction to the RIDOT plan, the Greenspace plan focuses only on those bikeways being studied or proposed as independent bikeways. These routes, for the most part, propose use of abandoned rail rights-of-way and other routes separate from the highway system (Class I bikeways) wherever feasible. The bike routes proposed in the RIDOT plan as on-highway (Class II or III) bikeways are (for the most part) not considered in this plan. A second departure is that the Greenspace plan proposes a bicycle link between Jamestown and Newport, across the Pell Bridge. The desirability of such a connection has long been discussed by bicycle-interest groups and is considered important to the connectivity of a statewide bicycle system.

Independent (Class I) bikeways should also be designed to safely accommodate walking, jogging, wheelchairs, and other forms of human-powered transportation/recreation that are growing in popularity (skateboarding, rollerblading). However, the primary purpose of bicycle transportation should retain priority.

A number of the plan's major bikeways are proposed to follow the corridors of abandoned rail lines. Some of these routes may hold promise for future revival of transit use. A recent national survey by the Rails to Trails Conservancy found favorable experience and few problems with 16 combined rails-with-trails corridors in 11 states[1], indicating that, with proper design and management, rail and trail uses can co-exist in a single corridor. Indeed, portions of the Blackstone Bikeway, now being designed, will be co-located with an active freight line. The design of other Greenspace system bikeways along abandoned rail rights-of-way should also accommodate the possibility of future co-location of active rail or bus transit lines with the bikeway.

1 "Study Shows Sharing Corridors A Growing Trend for the 1990s" in *Rails With Trails Bulletin*. Summer/Fall 1993 issue. National Park Service, Rivers, Trails and Conservation Assistance Program.

Minor bikeway routes are included in the local plan component. These routes, of which there are approximately 135 miles (again with some overlap with major bikeway corridors), were proposed by local governments. In many cases they link with major bikeway corridors, but some proposals are unconnected to the state system. This category includes not only on-road (Class II and III) proposals but also several routes that would be independent (Class I) facilities.

Trail Corridors

Trail corridors are proposed as the other principal way in which people may connect to the greenspace network. Trails are envisioned to be principally unsurfaced paths designed for walking and hiking. Some trails (or segments of longer trails) may also accommodate horseback riding; non-motorized, off-road (mountain) biking; and wheelchair users. Some portions of a statewide trail system might also accommodate motorized trail users, but these uses are not encouraged, due to the difficulties of managing detrimental impacts of motorized recreation on environmental resources and other trail users.

The plan includes the 66-mile-long North-South Trail concept as a major, or state-system corridor; 115 miles of existing trails; and 70 miles of locally-proposed trails. As is the case with natural corridors and bikeways, it is likely that numerous additional trail opportunities exist beyond those enumerated in the plan. Many foot paths, used informally for centuries, exist in every corner of the state. These need documentation, and the development of formal protection and management regimes in some instances. While beyond the scope of this initial broad-brushed survey, an intensive and comprehensive survey and plan for Rhode Island's trails is needed. Funding for such an effort may be available from the National Recreational Trails Fund authorized by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

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Providence's Woonasquatucket River Greenway proposal to restore parks and create a new bikeway and riverwalks (such as in downtown's Waterplace Park -- shown here) could become a model for greenway-inspired revitalization of distressed city neighborhoods.

6-2 Composite Systems

The elements identified above are organized as two planned systems: a State System and a complementary Local System. Table 155-6(1) provides summary information on each system's component greenways.

6-2-1 The State Greenspace and Greenway System

The recommended State Greenspace and Greenway System includes approximately 400 miles of natural greenways, 190 miles of bikeway corridors, and 66 miles of major trail corridor. Major natural greenways are proposed along the Blackstone, Moosup, Pawtuxet, Potowomet, Ten Mile, Wood-Pawcatuck River, and Woonasquatucket river systems; following the state's ocean-fronting barrier beach/pond systems and rocky shorelines; and down the centers of Aquidneck, Conanicut, Block, and Prudence islands.

Major bikeways encompassed by the plan include the 14-mile East Bay Bikeway, already in operation, and several independent bikeways, either under, or proposed for study. Bikeways currently under feasibility or design study are: the Blackstone, Aquidneck Island, West Bay and Block Island Bikeways. Routes proposed for future study include: the Narragansett Pier, Northwest, Route 116, South Shoreline, and Providence-Coventry Bikeways.

The North-South Trail, a long-distance hiking trail connecting existing trails and public lands along the length of the state's western tier of rural communities, is the only major trail corridor proposed in the State system. However, as noted in the prior sections, bikeway corridors will provide walking, jogging, and other non-motorized trail-related opportunities, and many natural corridors could also accommodate trails. Figure 155-6(1) shows the proposed state system.

The North-South Trail corridor, proposed to stretch 66 miles through rural western Rhode Island, would provide hiking and other trail-based recreation and link large areas of protected greenspace.

Figure 155-6(1)

State of Rhode Island
Greenspace and Greenway Plan
State Greenspace and Greenway System

11x17 Fold-out Color Plate

6-2-2 The Local Greenspace and Greenway System

If greenspace is to be readily accessible and integral to the lives of Rhode Islanders, it is essential that a companion system of local greenways and protected greenspace complement the State Greenspace system. To begin to form this integrated system, the plan includes an inventory of local proposals as of the summer of 1992. The local system is not complete. Some communities did not respond to the survey, but may have plans. Others, which may presently have no plans for greenways, may come to see wisdom in embracing the idea in their jurisdictions, particularly if they see possibilities of connecting with greenways in the state system and proposed by neighboring communities. The plan must remain flexible to allow such growth of the concept.

The Local Greenspace and Greenway System shown on Figure 155-6(2), includes the following elements:

Locally-Significant Greenspaces

Cities and towns were asked in the 1991 Greenspace Survey to identify their five most important open space resources. Responses varied from broadly identified resource categories to specific areas and parcels. Some communities, although they had specific protection objectives, did not wish to have the sites identified or mapped for inclusion in the plan. Some of the locally-significant areas overlap with multi-functional greenspaces of the state system, and these should be given priority for cooperative state/local protection projects and resources.

Local Natural Corridor Greenways

Approximately 10 communities are planning natural greenways. Several locally-proposed natural corridors correspond with natural corridors in the state-proposed system, especially along major rivers such as the Blackstone and Wood-Pawcatuck; and most of the remaining proposals are along smaller rivers and streams. Two local natural corridors are proposed following public utility corridors. A total of 115 miles of natural corridor have been identified by local governments, and again some of the local proposals coincide with major corridors of the state system.

Local Bikeways

Rhode Island communities are proposing a total of 135 miles of bikeways and bike routes as alternative transportation resources and recreational amenities. Both Class I (independent) and Class II and III (shared roadway) facilities are contemplated. Independent bikeway corridor proposals include routes following the Ten Mile, Runnins, and Woonasquatucket Rivers and along abandoned rail rights-of-way in Burrillville, Bristol, Cranston, Narragansett, North Kingstown, and Warren. On-road bike routes are proposed by Barrington, Coventry, Cranston, East Greenwich, Exeter, Jamestown, Middletown, Narragansett, Newport, North Providence, and South Kingstown. Warwick, which did not propose any bicycle route greenways at the time of the survey, is currently studying a comprehensive city-wide system of bicycle routes, which could be added to the local system upon completion of the local plans.

Figure 155-6(2) **Local Greenspace and Greenway System**

Local Trails

Opportunities for local trails greenways have been identified by approximately half of Rhode Island's communities. Extensive, community-wide trail systems are being proposed by Bristol and East Greenwich, and a number of other towns have plans for creating new trails, or formalizing and protecting existing trails. In total, approximately 100 miles of existing trails and 70 miles of proposed trails are identified in the plan. Many of the existing trails are encompassed within the confines of existing public open space, especially within the extensive state management areas of western Rhode Island. The North-South Trail, proposed as a state-system trail corridor greenway, could link several of these now-discrete trails into a long-distance system of through, feeder, and side-loop trails.

Table 155-6-(1)

Greenspace and Greenway System Statistics

	Corridor Miles	Average Width (ft)*	Approx. Acreage†
STATE SYSTEM ELEMENTS			
1. Greenspace Resource Areas	na	na	93,000
2. Primary Natural Corridor Greenways	400	1,200	57,800
3. Primary Natural System (1 & 2 combined)	**400**	**1,200**	**126,700**
4. Secondary Natural Corridors	122	1,200	21,200
5. Mid-State Greenbelt	50	4,800	27,800
6. Bikeway Corridors	195	100	28,800
7. North-South Trail Corridor	66	200	1,600
LOCAL SYSTEM ELEMENTS			
1. Locally Significant Greenspaces	na	na	45,400
2. Natural Greenways	115	600	8,300
3. Bikeways	135	100	1,600
4. Trails	165	200	3,800

* design width for planning purposes--see text

† acreage figures include overlaps between system components

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6-3 Greenway Corridor Width

For display purposes, Figures 155-6(1) and 155-6(2) depict greenways as bands of uniform width for each category of corridor. The conceptual corridor depictions on the maps translate into a 4,800 foot width for the mid-state greenbelt, 1,200-foot-wide swaths for primary and secondary natural corridors, and 600-foot-wide minor corridors; but there is no magic in these widths.

Collected wisdom on optimum greenway width is growing, but there are still as many unknowns as there are variables[2]. Other states and studies have suggested minimum greenway widths of between 150 and 1,000 feet to protect water quality[3]. Widths of greenways aimed at preserving wildlife vary with the species of interest, ranging from mere feet up to several miles for large predators (not currently a concern for Rhode Island). Wildlife corridors for many mammalian and bird species generally should have at least as much interior habitat (the core area unaffected by light, wind, predators, and human disturbances present along the greenways edges) as edge habitat. Since edge effects have been shown to penetrate 100 feet or more into a temperate forest, wildlife corridor greenways in such habitats would need to be at least 400 feet in width: 200 feet of interior habitat sandwiched between two 100-foot edge habitats[4].

For macro-planning of the greenspace system, the corridor widths listed in Table 155-6-(1) were used. However, real-world greenway corridor widths will vary considerably from corridor to corridor, and for different segments of individual corridors. The following considerations should guide implementation planning:

❖ *Natural Corridors*

For natural greenways the width of each corridor created will vary along its length, with differing preservation objectives (e.g., water quality, wildlife, agriculture, hazard avoidance), land use options available, and the context of the surrounding landscape the corridor passes through. A 1,200-foot corridor width makes sense for natural corridors if regarded as a minimum protection envelope within which planning, regulatory, acquisition, and other resources are brought to bear to give the greenspace system protection objectives the maximum expression possible within the constraints of the situation.

In the most rural parts of the state--for example, westernmost Rhode Island, or southern Tiverton and Little Compton--it is still possible to guide development so it avoids natural corridors and greenspace areas, and a preserved 1,200-foot-wide corridor could be a legitmate objective. In some cases, adequate protection of the resources involved may require going beyond a 1,200 foot corridor. For example, where corridors transect large (wider than 1,200 feet) multi-functional greenspaces, the objective should be to embrace protection of the entire greenspace that supports the valuable functions identified.

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2 See Smith, D.S. and Hellmund, P.C. Ecology of Greenways: Design and Function of Linear Conseva*tion Areas.* 1993. U. Minn. Press. Ch. 3-5.

3 Schwarz, L.(ed.) Flink, C.A., and Searns, R.M. *Greenways: A Guide to Planning, Design, and Development.* Island Press. 1993. p. 150.

4 Labaree, J.M. *How Greenways Work: A Handbook on Ecology*. 1992. p. 18.

The other extreme is where natural corridors are proposed to pass through areas that are already intensively developed, as is the case for the corridors that follow major rivers flowing through the Providence metropolitan area. In such areas, the corridors become, in effect, urban greenways; and their design width and other parameters must be quite different from natural greenways in rural parts of the state. The 1,200-foot-width goal translates more into a sphere of critical influence, in which all proposed land use activities would be scrutinized to avoid adverse effects, to capture opportunities for preserving (and restoring) natural vegetation and habitat continuity, and to promote opportunities for expanded public access and usage, in manners consistent with resource protection.
In all cases, however, the paramount goal for natural corridors should be to provide a continuous corridor of preserved greenspace (land, water, wetlands) that supports ecological functions and protects the public resource values embodied in it.

❖ *Bikeway Corridors*

Class I bikeway corridors can be as narrow as 25 feet where space is tight. A 100-foot minimum corridor width is, however, preferable, especially in urban areas to allow retention of vegetation for visual screening of adjacent land uses. Class II and III bikeways are generally constructed within the rights-of-way of existing roads and highways; most should not require any new "corridor" acquisition.

❖ *Trail Corridors*

Trail corridors, like other greenways, will necessarily vary in width. Recommended minimum widths of 50 feet in urban environs and 200 feet in rural areas should be design objectives. Corridors (or segments) designed to accommodate separate treads for different uses (e.g., hikers, horses, mountain bikes) should be wider still, optimally 200 feet per tread, to provide visual and auditory separation of users, and options for tread rest and relocation.

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6-4 Natural System Protection Analysis

In order to quantify land protection investment needs and focus future efforts on the most vulnerable areas, the major elements of the state natural system were further analyzed using RIGIS capabilities and data. This analysis sought to assess the availability and protection status of primary system areas (greenspace resource areas and primary natural corridors) via identification and quantification of:

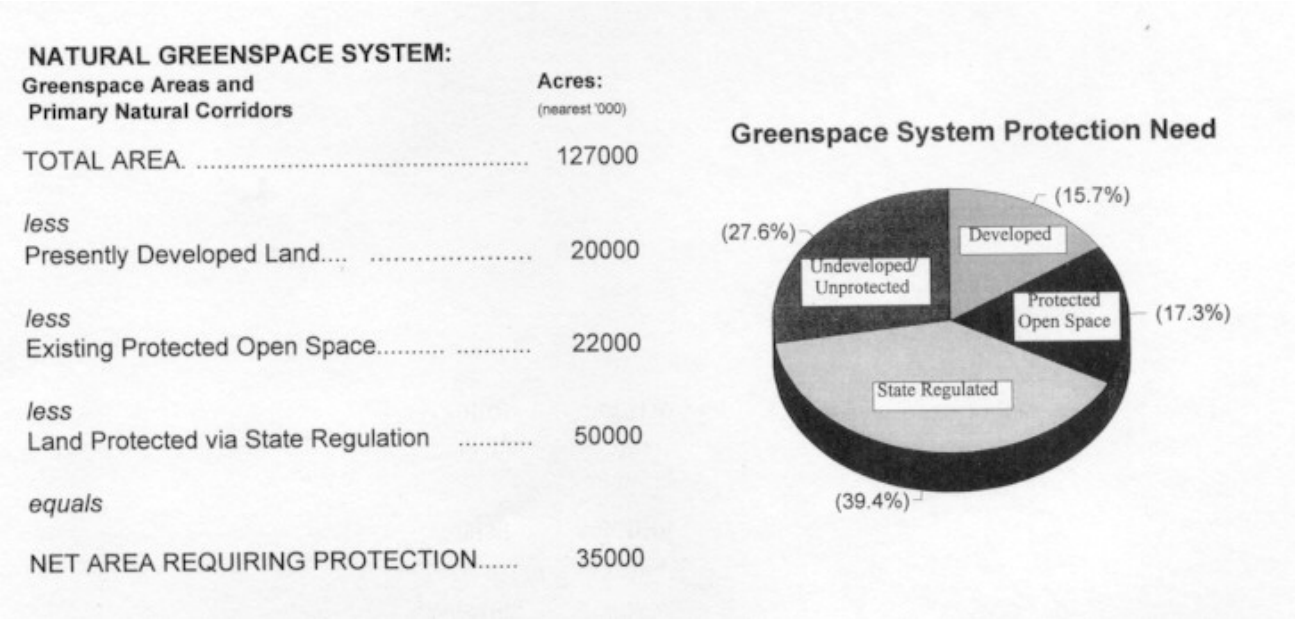
- ❖ portions of the primary natural system presently occupied by developed land uses;
- ❖ portions of the primary natural system within currently protected open space areas; and
- ❖ portions of the primary natural system encompassed within areas subject to state regulation under the Freshwater Wetlands Act or the Coastal Resources Management Act.

Conceptually, the analysis consisted of sequential subtraction of developed, protected, and regulated land from the primary natural system area. The results of the protection analysis of the primary

natural system are presented in Figure 155-6(3). First priority for protection investments should be given to the 28 percent of the primary natural system that is undeveloped and unprotected (i.e., neither protected open space nor state-regulated areas). These most vulnerable 35,000 acres of the natural system are the focus of the land protection program developed in Part Eight.

Figure 155-6-(3)

Greenspace and Greenway System
Assessment of Land Protection Opportunities and Needs



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